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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,344	03/30/2004	Wolfgang Dersch	1/1434	4987

28501 7590 05/11/2005

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EXAMINER

HEARD, THOMAS SWEENEY

ART UNIT PAPER NUMBER

1654

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/813,344

Applicant(s)

DERSCH ET AL.

Examiner

Thomas S Heard

Art Unit

1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The amendment filed April 14, 2005 is acknowledged and has been entered.

Claims 1-9 have been examined on the merits.

Amendment to correct a structure has been noted.

The text of those sections of Title 35, U.S. Code not included in the action can be found in a prior Office Action.

### ***Claim Rejections - 35 USC § 103***

Claims 1-9 remain rejected under 35 U.S.C. 103(a) as being unpatentable over (WO 00/59929), and Grela, et al, "A Highly Efficient Ruthenium Catalyst for Metathesis Reactions," *Angew. Chem. Int.* (2002) Vol. 41, pp 4038-4040 as stated in the previous office action mailed on December 14, 2004, see pages 2 and 3.

In response to the applicant's arguments that there is an unexpected improvement, it can be shown that the claimed improvement is demonstrated in the art already provided by Grela et al that was relied upon in the 103(a) rejection. The applicants note that when one compares the percent yield using compound **9** in Grela et al with the two different substrates of **3** and **4** there is disproportion in the percent yield. The fact that a materially different compound resulted in a discrepancy in yield did not sway the applicants could conclude that this is a reason not to use the catalyst of **9** in the instant application. The majority of the reactions in Table 1 were either superior or equal to the reference catalyst **1b**. Additionally, Figure 1 of Grela et al illustrates the results of an RCM reaction with **10a** (2-Allyl-2-(2-methyl-allyl)-malonic acid) and

demonstrates comparable percent ring closure reaction with **9** to that of **1b** (Grubbs catalyst), and significantly more reactive than **2** and **3** (Hoveyda's catalyst) that are not nitro-substituted. This demonstrates an improved Hoveyda's catalyst when nitro-substituted rather than a bromo-substituted or un-substituted.

Percent yield is not the only motivating reason to select and use a compound over another. Reasons for selecting compound **9**, cited *supra* and reiterated here, are "a remarkably wide scope of this catalyst; the RCM and enyne variant of the metathesis reaction can be performed efficiently at 0 °C (Table 1, entries 2-4); various degrees of substitution of the double bond are tolerated, and even trisubstituted olefins can be synthesized in good yields at ambient temperature (Table 1, entries 1 and 5); The CM reaction of terminal alkenes and, -unsaturated compounds can be also performed at room temperature (Table 1, entries 6-9); the more demanding CM reactions of phenyl vinyl sulfone (Table 1, entry 8) and acrylonitrile (Table 1, entry 9) show that also in this particular case complex **9** is superior to **1b** and **2**; and most remarkably, the new precatalyst **9** can be used for CM of methacrylonitrile; the transformation is beyond the scope of the second generation Grubbs' carbene **1b** (Table 1, entry 10). Further, it was shown "that the catalysts related to that of Hoveyda can be significantly improved by changing not only the steric but also the electronic character of the Ru-chelating isopropoxy fragment and **9** is attractive from a practical point of view as it is active and easy to obtain in a three-step synthesis. This catalyst operates under very mild conditions (0 °C to room temperature) and can be successfully applied in various types of metathesis reactions (RCM, CM, enyne).

Finally, it is noted that the evidence presented in applicant's response is not in the form of a declaration under 37 CFR 1.132. The rejection is deemed proper and is maintained.

### **Conclusion**

No Claims are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas S Heard whose telephone number is (571) 272-2064. The examiner can normally be reached on 9:00 a.m. to 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on (571) 272-0974. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TSH

A handwritten signature in black ink, appearing to read "Bruce Campell", is positioned above the printed name and title.

**BRUCE R. CAMPELL, PH.D  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600**